

REMARKS

Claims 1 through 21 are currently pending in the application.

This amendment is in response to the final Office Action of November 27, 2006.

Information Disclosure Statements

Applicant notes the filing of two Information Disclosure Statements herein on November 16, 2006 and December 4, 2006, and notes that copies of the PTO/SB/08s were not returned with the outstanding Office Action. Applicant respectfully requests that the information cited on the PTO/SB/08s (which is the same as that of record to that date in the parent application hereto) be made of record herein. Copies of the two PTO/SB/08s are attached hereto.

35 U.S.C. § 103(a) Obviousness Rejections

Obviousness Rejection Based on Oh (U.S. Patent 5,352,107)

Claims 1 through 21 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Oh (U.S. Patent 5,352,107) in view of Taniguchi et al. (U.S. Patent 6,221,690). Applicant respectfully traverses this rejection, as hereinafter set forth.

Applicant asserts that to establish a *prima facie* case of obviousness under 35 U.S.C. § 103 three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Third, the cited prior art reference must teach or suggest all of the claim limitations. Furthermore, the suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on Applicant's disclosure.

After carefully considering the cited prior art, the rejections, and the Examiner's comments, Applicant has amended the claimed invention to clearly distinguish over the cited prior art.

Turning to the cited prior art, the Oh reference teaches or suggests the use of an apparatus for sensing incomplete molding of an automold system in process for molding semiconductor packages.

Taniguchi describes a semiconductor package and production method thereof. Specifically, Taniguchi describes a semiconductor package production method where a solder resist 3 is formed on the top surface side of a BGA (ball and grid array) substrate (col. 3, lines 35-36). This solder resist is preferably one that can be removed by a laser (col. 4, line 40-42). The laser can be selected from the fundamental wave of a YAG laser, the second harmonic, the third harmonic, and fourth harmonic of the YAG laser, an excimer laser, and so on (col. 5, lines 47-51). Lastly, an encapsulating resin can be used to encapsulate the substrate (col. 6, lines 57+).

Applicant asserts that any combination of the Oh reference in view of the Taniguchi reference fails to establish a *prima facie* case of obviousness under 35 U.S.C. § 103 regarding the claimed inventions of independent claims 1, 4, 7, 10, 13, 16, and 19 because any combination of such cited prior art fails to teach or suggest all the claim limitations of independent claims 1, 4, 7, 10, 13, 16, and 19. Applicant asserts that any combination of the cited prior art fails to teach or suggest the claim limitations of independent claims 1, 4, 7, 10, 13, 16, and 19 calling for “removing at least a portion of the layer of resist and at least a portion of the contaminants from the substrate using a laser in the automolding system”, “removing at least a portion of the layer of resist and contaminants from the substrate using a laser in the molding system“, “removing at least a portion of the layer of resist and some contaminants from the substrate using a laser in molding system”, “removing at least a portion of the layer of resist and at least some of the contaminants from the substrate using a laser in the automolding system “, “removing at least a portion of the layer of resist and at least some of the contaminants from the substrate using a laser in the molding system “, “removing at least a portion of the layer of resist and at least some of the contaminants from the substrate using a laser in the automolding system”, “removing at least a portion of the layer of resist and at least some of the contaminants from the substrate using a laser in the automolding system”, “scanning the substrate using a laser in the automolding

system for irregularities from removing the layer of resist”, “cutting a portion of the layer of resist using a laser in the molding system”, and “marking a surface of the semiconductor device using the laser in the automolding system”.

Applicant respectfully submits there is no suggestion or motivation, either the Oh reference or Taniguchi, to modify any of the reference or to combine reference teachings to form the claimed invention to establish a *prima facie* case of obviousness regarding the claimed invention under 35 U.S.C. 103. The Oh reference merely teaches or suggests the use of automolding systems while the Taniguchi reference does not suggest or provide evidence showing that its teachings of laser removal of resist, when combined with an automolding system, would provide a more efficient automation in manufacture. Applicant respectfully submits that such analysis is merely hindsight analysis and is improper. Applicant asserts that there is no suggestion, other than solely in Applicant’s specification, that the combined teachings of the Oh reference and the Taniguchi reference will have a reasonable expectation of success. Additionally, the only suggestion to combine the teachings of the Oh reference and the Taniguchi reference is in Applicant’s specification, which thing cannot be relied upon to form an obviousness rejection. Such a rejection is neither within the ambit nor purview of 35 U.S.C. § 103 and cannot establish a *prima facie* case of obviousness regarding the claimed invention under 35 U.S.C. 103. Further, Applicant asserts that any combination of such prior art cannot and does not teach or suggest the claim limitations of presently amended independent claims 1, 4, 7, 10, 13, 16, and 19 because any rejection based on any combination of such prior art would be a hindsight reconstruction of the presently claimed invention by picking and choosing elements and claim limitations based solely upon Applicant’s disclosure because the cited prior art is devoid of any teaching or suggestion for any combination thereof. Since all rejections of the claimed inventions are based upon the Oh reference and the Taniguchi reference, Applicant asserts that the use of such prior art is *prima facie* evidence that there is no prior art that contains any teaching or suggestion of the claim limitations of the claimed inventions of independent claims 1, 4, 7, 10, 13, 16, and 19, otherwise, other individual prior art references would have been used in any rejection, which references would teach or suggest the claimed inventions.

For these reasons, Applicant respectfully submits that, under 35 U.S.C. § 103, independent claims 1, 4, 7, 10, 13, 16, and 19 and the dependent claims therefrom are allowable over the combination of the Oh reference and the Taniguchi reference because, at the very least, there is no suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings to establish a *prima facie* case of obviousness regarding the claimed invention under 35 U.S.C. 103.

Obviousness Rejection Based on JP404113663A

Claims 1 through 21 are rejected under 35 U.S.C. § 103(a) as being unpatentable over JP404113663A in view of either Oh (U.S. Patent 5,352,107) or Owens (U.S. Patent 6,465,743). Applicant respectfully traverses this rejection, as hereinafter set forth.

Applicant asserts that to establish a *prima facie* case of obviousness under 35 U.S.C. § 103 three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Third, the cited prior art reference must teach or suggest all of the claim limitations. Furthermore, the suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on Applicant's disclosure.

After carefully considering the cited prior art, the rejections, and the Examiner's comments, Applicant has amended the claimed invention to clearly distinguish over the cited prior art.

Turning to the cited prior art, the *Ibiden Co Ltd* teaches or suggests using laser to remove burrs from a lead frame having an electronic component as subsequently sealing a portion of the lead frame and electronic component in a transfer molding machine.

The Oh reference teaches or suggests the use of an apparatus for sensing incomplete molding of an automold system in process for molding semiconductor packages.

The Owens reference teaches or suggests a molded ball grid array package.

Applicant asserts that any combination of the Ibiden Co Ltd reference in view of either the Oh reference or the Owens reference fails to establish a *prima facie* case of obviousness under 35 U.S.C. § 103 regarding the claimed inventions of independent claims 1, 4, 7, 10, 13, 16, and 19 because any combination of such cited prior art fails to teach or suggest all the claim limitations of independent claims 1, 4, 7, 10, 13, 16, and 19. Applicant asserts that any combination of the cited prior art fails to teach or suggest the claim limitations of independent claims 1, 4, 7, 10, 13, 16, and 19 calling for “removing at least a portion of the layer of resist and at least a portion of the contaminants from the substrate using a laser in the automolding system”, “removing at least a portion of the layer of resist and contaminants from the substrate using a laser in the molding system“, “removing at least a portion of the layer of resist and some contaminants from the substrate using a laser in molding system”, “removing at least a portion of the layer of resist and at least some of the contaminants from the substrate using a laser in the automolding system “, “removing at least a portion of the layer of resist and at least some of the contaminants from the substrate using a laser in the molding system “, “removing at least a portion of the layer of resist and at least some of the contaminants from the substrate using a laser in the automolding system”, “removing at least a portion of the layer of resist and at least some of the contaminants from the substrate using a laser in the automolding system”, “scanning the substrate using a laser in the automolding system for irregularities from removing the layer of resist”, “cutting a portion of the layer of resist using a laser in the molding system”, and “marking a surface of the semiconductor device using the laser in the automolding system”.

Applicant respectfully submits there is no suggestion or motivation, either the Ibiden Co Ltd reference or the Oh reference or the Owens reference, to modify any of the reference or to combine reference teachings to form the claimed invention to establish a *prima facie* case of obviousness regarding the claimed invention under 35 U.S.C. 103. The Ibiden Co Ltd reference merely teaches or suggests the use of a laser and subsequent auto-molding of a part while the Oh reference merely teaches or suggests the use of automolding systems while the Owens reference teaches or suggests a molded ball grid array package.

Applicant respectfully submits that such analysis is merely hindsight analysis and is improper. Applicant asserts that there is no suggestion, other than solely in Applicant's specification, that the combined teachings of the Ibiden Co Ltd reference in view of either the Oh reference or the Owens reference will have a reasonable expectation of success. Additionally, the only suggestion to combine the teachings of the Ibiden Co Ltd reference in view of either the Oh reference or the Owens reference is in Applicant's specification, which thing cannot be relied upon to form an obviousness rejection. Such a rejection is neither within the ambit nor purview of 35 U.S.C. § 103 and cannot establish a *prima facie* case of obviousness regarding the claimed invention under 35 U.S.C. 103. Further, Applicant asserts that any combination of such prior art cannot and does not teach or suggest the claim limitations of presently amended independent claims 1, 4, 7, 10, 13, 16, and 19 because any rejection based on any combination of such prior art would be a hindsight reconstruction of the presently claimed invention by picking and choosing elements and claim limitations based solely upon Applicant's disclosure because the cited prior art is devoid of any teaching or suggestion for any combination thereof. Since all rejections of the claimed inventions are based upon the Ibiden Co Ltd reference in view of either the Oh reference or the Owens reference, Applicant asserts that the use of such prior art is *prima facie* evidence that there is no prior art that contains any teaching or suggestion of the claim limitations of the claimed inventions of independent claims 1, 4, 7, 10, 13, 16, and 19, otherwise, other individual prior art references would have been used in any rejection, which references would teach or suggest the claimed inventions.

For these reasons, Applicant respectfully submits that, under 35 U.S.C. § 103, independent claims 1, 4, 7, 10, 13, 16, and 19 and the dependent claims therefrom are allowable over the combination of the Ibiden Co Ltd reference in view of either the Oh reference or the Owens reference, at the very least, there is no suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings to establish a *prima facie* case of obviousness regarding the claimed invention under 35 U.S.C. 103.

Applicant requests entry of this amendment for the following reasons:

The amendment is timely filed.

Serial No. 10/791,190

The amendment places the application in condition for allowance.

The amendment does not require any further search or consideration.

Applicant submits that claims 1 through 21 are clearly allowable over the cited prior art.

Applicant requests the entry of this amendment, the allowance of claims 1 through 21,
and the case passed for issue.

Respectfully submitted,



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JRD/mah:lmh

Enclosures: Copy of November 16, 2006 PTO/SB/08

Copy of December 4, 2006 PTO/SB/08

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